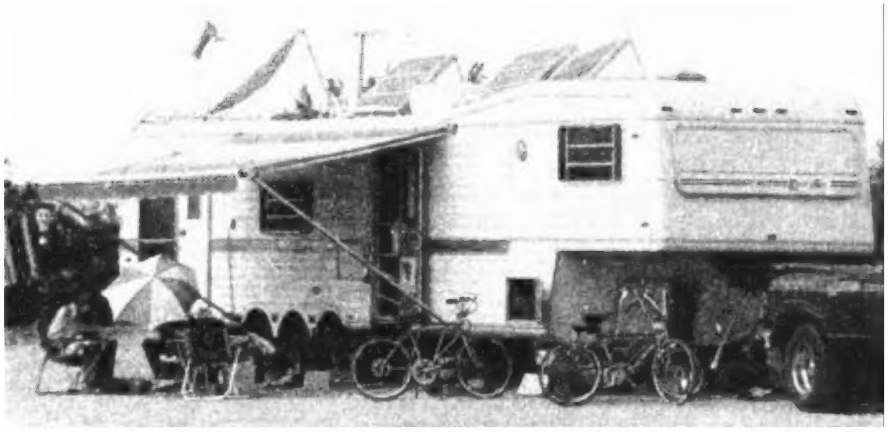
Charging RV batteries with the sun



Photovoltaic panels provide electricity for this trailer.

By Michael Gohl

There are three general types off photovoltaic systems for charging batteries in recreational vehicles (RVs) here in the Southwest Desert. Innovative people use the sun to keep batteries charged in a variety of ways ranging from the quick and simple to the sophisticated and complex.

A lot of people think that since solar panels are a state of the art device, it must be a difficult task to install them in some sort of a workable system. This is not necessarily the case. A lot of people here in the desert simply attach two wires on to the solar panel, one positive and one negative, and simply hook those leads to the positive and negative battery terminals. Point the panel toward the sun and bingo! Your battery is being charged.

This method works just fine for a lot of folks although there are a few disadvantages with this system. The first problem is securing the panel in such a manner that it won't be wind damaged, tripped over, or stolen. These panels are most often constructed with tempered glass that is capable of withstanding all sorts of inclement weather conditions. Extreme physical abuse tends to break the glass rendering the solar panel subject to the ill effects of moisture on electrical connections. The second problem is the extra daily effort it takes to take the panel out of storage, attach the panel to the batteries and secure it properly. Also, when it is time to pack up and travel, the panel needs to be stored out of harm!s way. This is a real problem considering the typical lack of extra space in an RV. Also inherent with this system is a safety issue: any time you attach wires directly to a battery, you risk reversing polarity, explosions from arcing battery connections, or fire hazards from wires shorting against metal objects and not being able to handle the current flow from the batteries. What initially seems to be a quick and easy hookup may turn out to be a disaster without constant attention to detail.

Another typical photovoltaic installation on RVs involves permanently attaching the panel on top of the vehicle. It is important to find a location away from TV antenna storage pods and air conditioners to avoid shadows during the day. They should be attached securely onto the roof rafters with screws and liberal amounts of silicon caulking. Most of the time, 12/2 stranded double insulated wires are run down through the refrigerator vent either directly to the batteries with an in-line fuse located near the batteries (with lower voltage self regulating panels) or via a voltage regulator placed in a conve ent location and then to the batteries or DC fuse box.

This installation is the more typical RV installation and proves to be a safe and trouble free method of taking advantage of most of the attributes of solar battery charging. It can provide ample power for DC lights, TV, and pumping water and, with occasional moderate use, heater fans, Cl3s, and ventilating fans. With this system, you don't need to be taking the panel out of storage, attaching wires to the battery and securing it down on a daily basis. However on the negative side with this method you need to park in the sun and are not able to track the sun throughout the day as easily as the first method.

With these systems, folks here in the Southwest can have all the conveniences of home as well as the quiet and solitude of the desert. They have ample electricity for all their DC electrical requirements and, with the addition of an invertor to change their DC to AC, they operate microwaves, video cassette players, and satellite dishes without the noise and inconvenience of generators.

In the final, analysis photovoltaic and RVs are a perfect combination for anyone interested in enjoying the conveniences of electricity and the quiet solitude of Mother nature.

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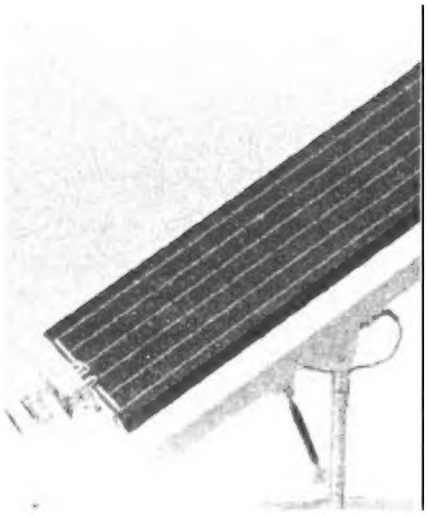

A photovoltaic panel and an RV spell independence.